



Student: **Michael Higley-Vance**

**THIS FORM MUST BE COMPLETELY FILLED IN**

**Follow these procedures:** If requested by your instructor, please include an assignment cover sheet. This will become the first page of your assignment. In addition, your assignment header should include your last name, first initial, course code, dash, and assignment number. This should be left justified, with the page number right justified. For example:

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**Save a copy of your assignments:** You may need to re-submit an assignment at your instructor's request. Make sure you save your files in accessible location.

**Academic integrity:** All work submitted in each course must be your own original work. This includes all assignments, exams, term papers, and other projects required by your instructor. Knowingly submitting another person's work as your own, without properly citing the source of the work, is considered plagiarism. This will result in an unsatisfactory grade for the work submitted or for the entire course. It may also result in academic dismissal from the University.

**EDU7006-8**

**Dr. Rebecca Watts**

**Quantitative Research Design**

**Activity #8: Signature Assignment –  
Research Proposal**

**Comments:** This assignment should really be allowed two weeks to complete. If I didn't already have a start on this I don't think I would have been able to finish in just one week. The brief literature review includes 5 studies, which were not part of my previous assignment.

**Faculty Use Only**

Michael, your concept paper is developing quite well. I want to encourage you to spend some time in reviewing research and giving thought on how your research will align with the existing research. How will your research add to the existing body of research on the topic? It seems to me that you have created this idea for your research study without considering how your study results will add to the research that

has already been done. Your study will continue to develop (forever) if you do not read the literature and see how other researchers have conducted their research. I have highlighted several elements of the concept paper from the assignment directions that you need to consider. I did not see these elements in your concept paper. However and as I indicated, you did do many things well. I did not see the analysis discussed very well in your paper. I pointed out that the hypotheses are not clearly stated. It seems that you are trying to conduct a correlation study along with a quasi-experimental study. Reading the literature (research studies) will help you to gain an understanding of how to set up your study. I enjoyed serving as your mentor for this course. I wish you well on your dissertation research.

Score = 94

<Faculty Name>

<Grade Earned>

<Writing Score>

<Date Graded>

Numerical Points	Letter Grade	Descriptor	Explanation
100 - 94	A	Excellent	Completes <b>all</b> required parts of the assignment, demonstrates <b>deep</b> understanding of materials, uses <b>very</b> clear and effective expression appropriate to scholarly writing, and has <b>very few or no</b> errors in grammar, mechanics, and APA formatting.
93-90	A-		
89-87	B+	Good	Completes <b>all or most</b> required parts of the assignment, demonstrates <b>good</b> understanding of readings, uses <b>mostly</b> clear and effective expression appropriate to scholarly writing, and has <b>few</b> errors in grammar, mechanics, and APA formatting.
86-83	B		
82-80	B-	Fair	Completes <b>most</b> required parts of the assignment, demonstrates <b>some</b> understanding of readings, and writing is <b>somewhat</b> clear, effective, and scholarly, and has <b>some</b> errors in grammar, mechanics, and APA formatting.
79-77	C+		
76-73	C	Poor	Completes <b>some</b> required parts of the assignment, demonstrates <b>some</b> understanding of readings, and writing is <b>difficult to understand</b> and <b>unscholarly</b> and has <b>several</b> errors in grammar, mechanics, and APA formatting.
72-0	F	Unacceptable	Completes <b>few</b> required parts of the assignment, demonstrates <b>little</b> understanding of readings, and writing is <b>difficult to understand</b> and <b>unscholarly</b> and has <b>many</b> errors in grammar, mechanics, and APA formatting.

Write your mock Concept Paper using the PPT Concept Paper template found in the Dissertation Center. Follow the template guidelines for each section.

1. Write an Introduction describing your topic. Draw freely on your work in Activity 1.
2. Write the Statement of the Problem section.
3. Describe the Purpose of the Study. Include the results of your power analysis.
4. State your Research Question and your null and alternative hypotheses. Be sure that your question aligns with your purpose. See my comments about the questions and hypotheses. It is not clear as to whether you are comparing two groups or if you are

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**Comment [1]:** You need to read the research that has been conducted on your topic and see how other researchers have approached their research. I believe that you have some pre-conceived notions as to how you want to approach your research. You want to allow the existing research to inform your research. You don't want to find research to support your study. You want to analyze the research and conduct your study so that you contribute to the existing research. What variable or sample can you include in your study that was not sufficiently studied in previous research?

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**Comment [2]:** You did not show the Power analysis results with the recommended sample size. Remember this: Just because you declare something to be true does not offer sufficient evidence to support what you say. Good research requires that the researcher show evidence to support his/her decisions.

[comparing repeated measures for one group.](#)

5. Write a Brief Review of the Literature. Be sure to include the five studies from Activity 8 and all relevant sources from your previous course work.
  6. Complete the Research Methods section (including the Operational Definition of Variables, Constructs, and Measurement sub sections) using your work in Activity 8. Follow the instructions in the CP template. Be sure to:
    - a. Identify the strengths and weaknesses of your envisioned design and methods.
    - b. Identify threats to validity and how your design will address them.
    - c. Justify why your chosen design and methods are more appropriate for your research question than alternatives you have considered
    - d. Define the constructs you will measure and what you will do in order to determine how to operationalize them. [Good](#)
    - e. Describe the sample you propose to study and its characteristics; this should include, but is not limited, to: 1) age; 2) gender; 3) ethnicity; 4) additional cultural factors; and 5) education level. Justify your choice of sample.
    - f. Describe your method of sampling. [Good](#)
    - g. Describe the type of data you need to collect and how you will collect it.
    - h. Briefly describe any ethical issues you foresee with your study. [Make a preliminary assessment of the level of risk associated with participation in your study that might need to be raised with the Institutional Review Board.](#)
    - i. Describe and justify how you will analyze your data and the descriptive statistics will you present. [You indicated that you would do correlation analyses. This does not align with your research questions.](#)
    - j. Explain how you conducted your power analysis.
    - k. Describe how you will handle your data, check for accuracy etc.
    - l. What problems do you foresee in implementing the design? How might you prevent them or . . .
- Ignore the other sections of the template.

Length: 10-14 pages not including title and reference pages. Your paper should demonstrate thoughtful consideration of the ideas and concepts that are presented in the course and provide new thoughts and insights relating directly to this topic. Your paper should reflect scholarly writing and current APA standards. Review [APA Form and Style](#). Be sure to adhere to Northcentral University's Academic Integrity Policy. View the [Northcentral Academic Integrity Tutorial](#) to refresh your knowledge of how to achieve academic integrity.

Upload your assignment using the Upload Assignment button below.

### Mock Concept Paper

Since 1951 technology has slowly been making its way into education reform. By 1986 25% of high schools were using PCs for college and career guidance. Since 1997 the growth and impact of the Internet and technology has changed the way people live their lives. With the increase in Internet use and the growth of web-based applications, technology is vastly changing the way educational institutions view student learning (Huang, Wei Lin & Huang, 2012; Tirrell & Quick, 2012). Over the last two decades researchers have begun examining the advances in

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**Comment [3]:** You want to provide more detail of this analysis in the methodology section.

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educational technology (Oliver & Stallings, 2014), the advantages and disadvantages it has in the traditional classroom environment, and the influence technology has on student behavior (Barbour et al., 2011; Huang, Wei Lin & Huang, 2012; Minter, 2011; Tirrell & Quick, 2012; van Deursen, 2011; Whelan, 2008).

Students in traditional classroom environments depend on the teacher to deliver and guide the flow of instruction, as well as manage and maintain classroom behaviors. In a traditional classroom environment students view the teacher as the authority and expert conveying information through face-to-face only interactions (Martin, 2009). However, this is not the case in a blended learning environment where there is a shift in the student-teacher relationship, the educational model, and learning theory. A successful blended environment balances the traditional classroom setting with a blended e-learning model, which meets the needs of most digital natives (Barbour et al., 2011; Minter, 2011; Whelan, 2008).

Blended learning combines face-to-face and online learning into one instructional learning approach. Educational institutions such as Embry-Riddle Aeronautical University are beginning to offer blended learning alternatives to traditional classroom instruction (Barbour et al., 2011; Minter, 2011). There is currently little research to support how incorporating a blended learning environment, within the traditional classroom, can affect student problem behaviors (Losen, Martinez, & University of California, 2013). However, the influence information and communication technologies (ICT) have had on traditional classroom practices and student behaviors have generated a need for understanding how teaching and learning happen best using a blended learning approach (Barbour et al., 2011; Minter, 2011).

Blended learning environments provide a number of benefits to students and teachers. Specific benefits include: improved learning (Donavant, 2009), improved learning efficiency

(Cabrera-Lozoya, Cerdan, Cano, Garcia-Sanchez, & Lujan, 2012; Chen & Lien, 2011; Huang, Wei Lin & Huang, 2012), and positively influences student learning behaviors (Bhuasiri, Xaymoungkhoun, Zo, Rho, & Ciganek, 2011; Haythornthwaite et al., 2007; McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008). Studies have shown students who participate in blended learning environments learn more effectively and efficiently, as indicated by student assessment outcomes (Huang, Wei Lin, & Huang, 2012; Martinez-Caro, 2011).

### **Statement of the Problem**

Research conducted by McIntosh et al. (2008) showed that social behaviors of middle school students had a significant impact on student achievement. The American College of Testing or ACT (2013) reported that almost 50% of all middle school problem behaviors affect overall academic achievement. Sixth, seventh, and eighth grade student problem behaviors (McIntosh et al., 2008), and the discipline related to those behaviors, are important factors, which influence over all student learning outcomes and future academic readiness (ACT, 2013; McIntosh et al., 2008). High school readiness is one such outcome that is impacted by problem behaviors at the middle school level (Losen, Martinez, & University of California, 2013). Additionally, research into the effects of middle school problem behaviors on high school academic outcomes identified problem behaviors at the middle school level negatively impact high school graduation (Casillas et al., 2013; Karakus, Salkever, Slade, Ialongo, & Stuart, 2012). Problem behaviors present an additional factor to high school graduation because disruptive behaviors typically lead to out of school suspensions and expulsions, which only exacerbates the problem (Tobin & Sugai, 1999).

Educators agree that in order to increase graduation rates problem behaviors at the middle and high school levels must be addressed (Losen, Martinez, & University of California, 2013).

The challenge is for educators in middle and high school to identify ways in which problem behaviors can be managed within the classroom environment. Solutions for dealing with problem behaviors in the classroom are potentially valuable later in high school for increasing high school graduation rates (Losen, Martinez, & University of California, 2013; McIntosh et al., 2008, McLeod & Kaiser, 2004).

Shearod, Ross, and Cheung (2012) suggest educational institutions overcome student problem behaviors by providing students a learning experience where technology and classroom instruction meet, and is the primary form of instructional delivery. The specific problem is to investigate whether or not a blended learning environment decreases middle school student problem behaviors, which, according to the research will increase graduation rates. The literature reviewed, supports incorporating elements of blended learning into the traditional classroom in order to minimize classroom disruptions and inappropriate student social behaviors (Barbour et al., 2011; Minter, 2011; Shearod, Ross, & Cheung, 2012; van Deursen & van Dijk, 2011). If studies like the one proposed in this concept paper are not performed, middle school behaviors are likely to continue to affect student overall achievement and ultimately graduation rates due to a lack of research, which could help identify practices that help improve student motivation and positive participation (Act, 2013; Losen, Martinez, & University of California, 2013; McIntosh et al., 2008, McLeod & Kaiser, 2004; Tobin & Sugai, 1999). Michael, you present a good rationale for the practical need for the research on the blended instructional approach. You provide some literature that suggests that the blended learning approach will reduce behavioral problems. What you want to do in developing the research problem is to show how your study will add to the literature. For example, what have previous studies on the blended learning approach discovered? What variables were included in previous research? How

will your study add to the knowledge base that has been established in other research studies?  
Your introduction here is a little general and you want to cite specific research studies and the findings of these studies to show how your study will contribute to this prior research.

### Purpose of the Study

The purpose of this quasi-experimental study is to investigate whether or not a blended learning environment has an affect on student satisfaction, motivation, and student performance. Additionally, this study will investigate whether there is a decrease in middle school problem behaviors as a result of participating in a blended learning environment where teaching and learning is driven by primarily technology enriched learning applications and resources. The research questions identified for this study are included to isolate the correlation between the independent variable – a blended approach to teaching and learning, and the dependent variables regarding student satisfaction, motivation, and inappropriate social behaviors. The study will be located in middle Tennessee, specifically targeting one area middle school. An experimental group of approximately 30 students will be selected prior to the start of school. Three separate data pieces will be collected throughout the study, which include: (a) student discipline records (SDR) reporting on student problem behaviors, (b) anonymous online student surveys, and (c) student achievement scores. This protocol will be used to gather information about student behaviors, motivation, satisfaction, and academic progression for study evaluation.

**G\*Power analysis.** This study is based on a priori analysis using a one tail Post hoc T-test. According to the G\*Power analysis, with input parameters of  $d=.86$ ,  $\alpha=0.05$ , and  $\beta = 0.95$  the output parameters result in a non-centrality parameter of 3.33, critical t of 1.67, and requires a minimum sample size of  $N = 30$ . This test will help to find the anticipated differences between

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**Comment [4]:** This wording is not appropriate.

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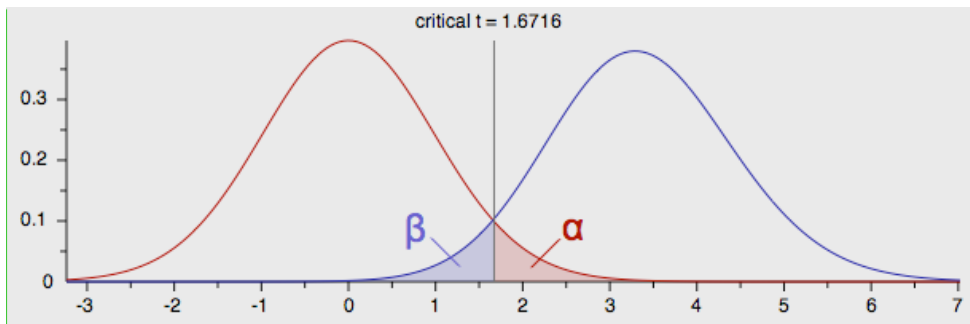
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**Comment [5]:** A beta value of .95 is too large.



the treatment and control groups Based on the preceding factors, the minimum sample size is required to have an optimal chance of rejecting the null hypothesis of middle school student data.



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**Comment [6]:** This analysis does not show the recommended sample size.

**Independent variable – instructional approach.** Blended learning combines face-to-face instruction with technology enriched learning applications to promote actively engaged student learning experiences (Abou Naaj, Nachouki, & Ankit, 2012; Schuitema, Peetsma, & van der Veen, 2014). This study includes a balance of these teaching and learning practices, which are delivered to the experimental group within a traditional middle school classroom setting.

**Dependent variable – satisfaction.** Student satisfaction of the learning environment has been chosen as a dependent variable. Research indicates that student satisfaction is an important factor in measuring the quality of learning in a blended environment (Gunarwardena, Linder-VanBerschoot, LaPointe, & Rao, 2010; Abou Naaj, Nachouki, & Ankit, 2012). Conversely, participating in a blended learning environment also promotes student satisfaction (Poon, 2013). Student satisfaction is a construct that will be derived from anonymous online surveys presented to the experimental group throughout the school year. Surveys will consist of several questions regarding components of the blended learning environment; which include student satisfaction with technology, instruction, and learning activities.

**Dependent variable – motivation.** Student motivation has been chosen as a dependent variable. Research indicates that as student engagement increases, so does student self-regulated learning (Schuitema, Peetsma, & van der Veen, 2014). Student motivation is closely related to interactivities (Gunawardena et al., 2010; Kozub, 2010; Martinez-Caro, 2009) and technology used to complete assigned tasks (Schuitema, Peetsma, & van der Veen, 2014). Student motivation is a construct that will be derived from anonymous online surveys presented to the experimental group.

**Dependent variable – academic achievement.** Student academic achievement has been chosen as a dependent variable. Research indicates that student achievement outcomes predict the quality of blended learning instruction (Abou Naaj, Nachouki, & Ankit, 2012; Poon, 2013; Schuitema, Peetsma, & van der Veen, 2014).

**Dependent variable – discipline points.** Student discipline points have been chosen as a dependent variable. Research indicates that student problem behaviors have a significant impact on student achievement (ACT, 2013; McIntosh et al., 2008).

When you operationally define these variables, you want to explain how they will be measured.

You want to be a bit more specific that you are here.

### Research Questions

The research questions identified for this study are included to **isolate the correlation** between the independent variable – a blended approach to teaching and learning, the dependent variables regarding student satisfaction, motivation, and inappropriate social behaviors. Associated with the problem and purpose statements, the following research questions will be addressed:

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**Q1.** Does satisfaction of middle school students, as measured by an anonymous student survey, positively increase over time as students participate in a blended learning approach to classroom instruction?

**Q2.** Does motivation of middle school students, as measured by an anonymous student survey and student academic records, increase when students participate in a blended learning approach to classroom instruction?

**Q3.** Do inappropriate behaviors of middle school students, as measured by student discipline records (SDR), decrease when students participate in a blended learning approach to classroom instruction?

Michael, if this is your dissertation research, you really need a control or comparison group.

### Hypotheses

By collecting student behavior information, using an anonymous online survey, and taking into consideration student academic assessment outcomes the hypotheses will be tested. Each question addresses a null hypothesis with no expectation of a significant relationship and an alternate hypothesis that proposes that a significant **correlation** does exist between the independent variable – a blended approach to teaching and learning, and the dependent variables – of student satisfaction, motivation, and inappropriate social behaviors.

**H1<sub>0</sub>.** A measure of student satisfaction is statistically equivalent and unchanged when teaching and learning is driven primarily by technology enriched learning applications and resources.

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**H1<sub>a</sub>.** A measure of student satisfaction is statistically different and positively affected when teaching and learning is driven primarily by technology enriched learning applications and resources.

**H2<sub>0</sub>.** A measure of student motivation is statistically equivalent and unchanged when teaching and learning is driven primarily by technology enriched learning applications and resources.

**H2<sub>a</sub>.** A measure of student motivation is statistically different and positively affected when teaching and learning is driven primarily by technology enriched learning applications and resources.

**H3<sub>0</sub>.** A measure of inappropriate student behaviors is statistically equivalent and unchanged when teaching and learning is driven primarily by technology enriched learning applications and resources.

**H3<sub>a</sub>.** A measure of inappropriate student behaviors is statistically different and decreases when teaching and learning is driven primarily by technology enriched learning applications and resources.

**Your research questions and hypotheses should reflect whether you are comparing pre and post measures or whether you are comparing scores for a control group to the experimental group. It should be clear from your questions and hypotheses as to what scores or group you are comparing to what.**

#### **Definition of Terms**

**Blended learning.** The concept, blended learning, can have multiple meanings depending on the context in which it is being used to frame a viewpoint or conduct research. This study defines blended learning as the integration of asynchronous online only and

traditional face-to-face collaborative and interactive learning activities, which can be experienced in either online only learning environments or traditional classroom settings (Barbour et al., 2011; Diaz & Diniz, 2014).

**Problem behaviors.** For the purpose of this study, the term problem behaviors, also referred to as discipline behaviors or misbehaviors, refer to unacceptable middle school student behaviors (Bobrow, 2002; McLeod & Kaiser, 2004; Shearod, Ross, & Cheung, 2012), which could include but are not limited to: cursing, classroom disruptions, transition disruptions, disrespect towards school employees, bullying, or disobedience. You have a section of terms above. You would want to include them all together in one section.

### **Brief Review of the Literature**

The purpose of the literature review was to gather and evaluate current research associated with the topic of student satisfaction, motivation, and technology integration within the traditional classroom environment. Numerous studies exist that discuss student satisfaction and motivation, as well as the influence those intrinsic characteristics have on traditional and blended learning. It is hypothesized that blended learning classroom instruction increases student motivation and satisfaction, as well as decreases problem behaviors in the classroom. This literature review will discuss five studies, which attempt to demonstrate and support the hypotheses. A common theme found in the literature showed that student satisfaction, motivation, and student behaviors were influenced by factors of blended learning. The function of this section was to collect, describe, and synthesize the effects blended learning has on student satisfaction, motivation, and classroom behaviors.

In an article by McIntosh et al. (2008) student behaviors were found to have had a significant influence on student overall achievement. The study examined a number of factors

thought to have an affect on academic failure and problem behaviors, such as attendance and types of instruction. Problem behaviors are noted to rarely exist in isolation and incorporated multiple variables, which combined to place students at risk for academic failure (McIntosh et al., 2008). The use of office discipline referrals were utilized to address problem behaviors for the purpose of correcting behaviors, tracking behavior patterns, and as a method to analyze problem behaviors (McIntosh et al., 2008).

Researchers have begun examining the advantages and disadvantages blended learning has on student motivation and satisfaction (Abou Naaj, Nachouki, Ankit, 2012; Cabrera-Lozoya, Cerdan, Cano, Garcia-Sanchez, & Lujan, 2012), as well as the influence technology has on student behaviors (Abou Naaj, Nachouki, Ankit, 2012;; ACT, 2013; Aman, 2012; Barbour et al., 2011; Huang, Wei Lin & Huang, 2012; McIntosh et al., 2008; Whelan, 2008). In a study conducted by Huang, Wei Lin, and Huang (2012), components of e-learning, such as online learning, was thought to increase student participation, which was considered a measure of student satisfaction and motivation. Additionally, the study sought to discover whether or not online participation increases student performance (Huang, Wei Lin & Huang, 2012). Huang, Wei Lin, and Huang (2012) found that there was a significant relationship between student participation and student academic performance when there was an online learning component incorporated into the traditional learning environment.

In a research article by Abou Naaj, Nachouki, and Ankit (2012), student satisfaction was considered an important factor for measuring the quality of blended learning. In this study student satisfaction was a result of five main factors: the instructor, technology, class management, student interaction, and instruction. According to Cabrera-Lozoya et al. (2012) various forms of e-learning are commonly based on improving the learning process. A blended

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**Comment [7]:** You need to review more studies such as this and explain the results of those studies as they relate to the variables that you plan to use in your study.

learning environment integrates the advantages of technology with advantages of traditional classroom instruction, such as face-to-face engagement (Abou Naaj, Nachouki, Ankit, 2012;). Student satisfaction is important because it influences student motivation to actively participate in the learning process (Aman, 2009; McIntosh et al., 2008).

In a study by Cabrera-Lozoya et al. (2012), a web-based framework was developed to create a heterogeneous learning environment called CADI. The experiment showed that the use of an e-learning component helped students achieve better academic results. CADI was implemented as an additional component to the teaching and learning process, providing online communication between the instructor, the content, and the student. Cabrera-Lozoya et al. (2012) found that 100% of students surveyed considered the experience to be satisfying and motivating. Additionally, using an ANOVA analysis to compare the mean scores of each group, researchers found that using CADI as an additional learning tool improved students' academic performance (Cabrera-Lozoya et al., 2012).

However, although these e-learning forms have proven to be effective within their respective fields (web-based communication and online learning support), there is little research to support the advantages of a fully implemented blended learning environment within the traditional classroom. According to Huang, Wei Lin, and Huang (2012) e-learning has become an integral part of classroom instruction however, it is often limited by a lack of student engagement within the learning process and the process of explicit instruction and learning. You review several good studies in this literature review. You need to review more research studies such as these in order to get an idea as to how other researchers are conducting their study.

### Research Method

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This study will consist of a quasi-experimental research design. Given a quasi-experimental design, this study will examine the extent to which the independent variable – a blended learning approach to teaching and learning, is related to differences in various dependent variables – of student satisfaction, motivation, and inappropriate social behaviors. The research will use a nonequivalent groups design, which will help determine, through a pretest-posttest framework, the casual (causal - ??) effects blended learning have on student behaviors. Unlike a randomized design, where groups are created using the mechanism of random assignment, nonequivalent groups will be assigned to the study given two comparable classrooms.

Blended classroom instruction is scheduled during the normal school year and during the normal school day of 7:00am to 2:30pm. Classroom selection, for the purpose of this study, will be composed using equivalent or similar classroom characteristics: grade level, subject, academic ability, gender proportions, and number of students. The experiment and control groups will range between twenty-eight and thirty-three participants who are of average and like abilities in the academic subject selected. The anticipated grade level and subject of this study will focus on an 8<sup>th</sup> grade math class where the experiment group is exposed to a frequent use of technology during explicit instruction, more specifically through the “We do...” and “They do...” teaching and learning strategies.

### **Data Collection and Analysis**

This quantitative study will include the collection of three different data sets: (a) student discipline records (SDR) reporting on the number of discipline points students received, (b) anonymous online student surveys, and (c) student achievement scores. Behavior data will be collected through administrative kept student discipline records. Student behavior data will be collected once every nine weeks. Data regarding student perceptions of what ??? will be the

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**Comment [8]:** What do these surveys measure?  
The survey is a method of collecting data. It is not a dependent variable.



second data piece collected, and will consist of an identical anonymous online survey presented to students every three weeks. This survey is aligned with the school system's progress reporting schedule, which will communicate student academic and behavioral progress. The final data piece includes student academic achievement outcomes, which will be collected using student test scores from a variety of assessment benchmarks throughout the school year. Student achievement data will be collected every nine weeks and is also aligned with the school system's progress reporting schedule.

Student problem behavior data will be collected in two steps: the first through teacher recorded discipline steps and the second through administrative kept student discipline records. Teachers will record students' negative behaviors by following four main teacher led discipline steps before referring the student to an administrator for an administrator issued discipline consequence. Teacher led discipline involves four teacher steps, which teachers must follow before referring a student to a school administrator. Teachers and administrators will use the district approved *Student Code of Conduct*, which outlines inappropriate student behaviors as the steps listed below are followed:

1. Teachers will give students a verbal warning when problem behaviors occur.
2. If problem behaviors continue, teachers will offer students a redirect, which might include moving the student's seat or placing the student out into the hallway.
3. If problem behaviors continue after steps one and two have been followed, the teacher should contact a parent either by phone or by sending home a behavior note. The parent contact should include information regarding the specific problem behavior being demonstrated.

4. Finally, if problem behaviors continue after the first 3 steps the teacher should refer the student to an administrator for an administrator issued consequence and discipline point assignment.

A report from Power School, the district's student information archival system, outlining the problem behaviors, the discipline points, and consequence will be collected each nine weeks. This student discipline information will provide quantitative data representing student problem behaviors, recorded as discipline points, which have been assigned to each recorded behavior and applied to the respective student. The total number of discipline points assigned to each student will determine whether or not student behaviors have an affect on student achievement, motivation, and satisfaction.

A student survey will be initiated every three weeks and will collect student perceptions of satisfaction and motivation using a checklist and rating scale. Survey questions were developed to examine five factors of student satisfaction regarding blended learning (Aman, 2009), which include: (1) outcomes, (2) assessment, (3) resource materials, (4) student interaction, and (5) technology. Each of the five factors will be assessed using a 5-point Likert scale intended, measure the questions developed for this study.

Finally, academic records will be collected and analyzed every nine weeks to help determine if each of the hypotheses is significantly supported or negated. A report from Power School, the district's student information archival system summarizing each student's academic progress will be collected each nine weeks. Student academic progress will provide quantitative data, which represents the students' level of academic achievements during the last nine weeks. Collecting these three varying data sets will help to determine whether or not a blended learning environment has a significant affect on student behaviors.

### **Operational Definition of Variables**

The independent variable for this study is the use of a blended learning approach to teaching and learning in the classroom. Learning and teaching in this environment will include the integration of asynchronous online only and traditional face-to-face collaborative and interactive learning activities. The measure of student achievement; a decrease or inactivity of student problem behaviors; and student motivation and satisfaction are the dependent variables in this study.

**Independent variable – instructional approach.** The blended environment will be considered a nominal variable, as no participation will occur with the control group. However, blended learning will be presented continuously to the experimental group. The instructional approach variable has two attributes: continuous participation (1) and no participation (0).

**Dependent variable – satisfaction.** The student satisfaction construct is a preference variable, which will allow students to rank order specific components of the learning environment as 1<sup>st</sup>, 2<sup>nd</sup>, or third choices. Additionally, discrete variables will be included to allow students to rank, in order of importance, their preference of instructional strategies and technology use.

**Dependent variable – motivation.** The surveys will consist of several questions regarding components of the blended learning environment, each regarding motivation to use technology to complete assignments or participate in instructional learning tasks. The student satisfaction construct is a preference variable rating specific components of the learning environment using a 1<sup>st</sup>, 2<sup>nd</sup>, or third choice answer choice.

**Dependent variable – academic achievement.** Students' academic achievement is a construct that will be derived from academic records of students in the experimental group. The student academic construct is a ratio variable varying from 0 to 100%.

**Dependent variable – discipline points.** Discipline points earned throughout the school year are a construct that will be derived from student discipline records (SDR). SDR will be collected from both the experimental and control groups. The SDR construct is an ordinal variable varying from 0 to 75. After a student receives 75 points he or she is no longer eligible to participate in the study.

### Measurement

Data for this research will be collected at the accumulation of each progress reporting period or every three weeks. The measurement instrument used in this study will be a multi-trait-multi-method approach. This method includes content and construct validity. For this study construct validity measures student behavioral and academic achievement, while content validity measures student perceptions of the learning environment. Additionally, ordinal, nominal, ratio, and preference scale values will be used to compare the dependent variables with the independent variable. More specifically, Spearman's nonparametric rank correlation coefficient will be used to convert values and measure the statistical dependence between the independent variable and dependent variables. A rank correlation scale assesses how well the relationship between two variables can be described. A perfect correlation of +1 or -1 occurs when each of the variables is a perfect function of the other. This correlation calculation is appropriate for the following dependent variables: student satisfaction, student motivation, academic performance, and accumulation of discipline points.

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The first data piece will include administrative records of student discipline, which places a number value on specific problem behaviors. Each offense is initially worth 10 discipline points. Each time a problem behavior is repeated, the point value assigned to the problem behavior increases by 5 points. For example if a student is disrespectful to a teacher for the second time the point value assigned to that occurrence and offense is 15 discipline points.

Discipline points will be conveyed through **ordinal** values 0 to 75. The greater the discipline point-value the more frequent problem behaviors have been displayed by a student.

The second data piece will consist of 12 anonymous online student surveys completed over the course of the school year. The anonymous surveys will be used to collect data related to student satisfaction of learning and motivation. A survey will be conducted at the beginning of school before instruction begins in both the experiment and control classrooms. The survey will include various questions and types: a 5-point Likert scale, 5 = strongly agree to strongly disagree = 1, a rank order scale, 1<sup>st</sup>, 2<sup>nd</sup>, and third choices; as well as preference scale, which allows the ordering of specific answer choices from most used to least used.

The final data piece will consist of both the experimental and control student achievement scores, which will be collected and compared to determine the effectiveness of the blended learning environment. Student achievement results will be collected from the **academic records** of students in the experimental and control groups. Achievement scores will be reported as a ratio varying from 0 to 100%.

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**Comment [9]:** I would argue that these discipline points are interval measures.

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**Comment [10]:** Your discussion of this survey instrument is ambiguous. It is not clear as to what this survey measures.

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**Comment [11]:** Ambiguity ---need to be specific as to how achievement will be measured.

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